



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,102	01/31/2007	Jintae Choi	VI7-033US	2246
959 7590 05/09/2008 LAHIVE & COCKFIELD, LLP ONE POST OFFICE SQUARE BOSTON, MA 02109-2127				
EXAMINER BATISTA, MARCOS				
ART UNIT 4134		PAPER NUMBER		
MAIL DATE 05/09/2008		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/578,102

**Applicant(s)**

CHOI ET AL.

**Examiner**

MARCOS BATISTA

**Art Unit**

4134

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-85/86)  
Paper No(s)/Mail Date 05/03/2006
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7 and 16-46 are rejected under 35 U.S.C. 102(b) as being anticipated by Hsu et al. (US 20030054807 A1).

Consider claim 1, Hsu discloses a communication system for appointing a frequency assignment (FA) mode and/or a broadcast/multicast service (BCMCS) assignment ratio in a 1xEV-DO (see abstract – Hsu refers to frequency assignment in the data portion of the 1xEV-DV technology) system in order to provide a BCMCS, the communication system comprising (see figs. 10 and 11, pars. 0073 - 0077): at least one access terminal (AT) (12) for receiving a 1xEV-DO service or the BCMCS through the 1xEV-DO system (see fig. 1 par. 0044); a base station manager (BSM) (22) for receiving BCMCS control information containing the FA mode and/or the BCMCS assignment ratio and transmitting a received BCMCS control information to a 1xEV-DO access network controller (ANC) (18) (see fig. 1 pars. 0045, 0053 lines 27-30 and 0074); and an access network including a 1xEV-DO access network transceiver subsystem (ANTS) and the 1xEV-DO access network controller (18) for temporarily

storing the received BCMCS control information and controlling a kind and/or a ratio of a message, the message being transmitted to each access terminal (**12**), according to the FA mode and/or the BCMCS assignment ratio contained in the BCMCS control information (**see fig. 1, pars. 0045 and 0057**).

Consider claim 2, Hsu discloses wherein the appointment of the FA mode is a work appointing a specific 1xEV-DO FA for the BCMCS from among 1xEV-DO FAs used for the 1xEV-DO service according to each access network area in the 1xEV-DO system (**see par. 0079 lines 14-19**).

Consider claim 3, Hsu discloses wherein the FA mode includes a dedicated BCMCS mode using the specific 1xEV-DO FA for the BCMCS and a mixed BCMCS mode using the specific 1xEV-DO FA to provide the BCMCS and the 1xEV-DO service (**see pars. 0048, 0049, 0074 and 0077 lines 7-9**).

Consider claim 4, Hsu discloses wherein the BCMCS assignment ratio is inputted when the FA mode is the mixed BCMCS mode (**see pars. 0048 and 0049**).

Consider claim 5, Hsu discloses wherein the FA mode and/or the BCMCS assignment ratio is contained in a system parameter message for the BCMCS in the 1xEV-DO system and then transmitted (**see fig. 2, par. 0054**).

Consider claim 6, Hsu discloses wherein the base station manager stores a BCMCS control program performing a function of inputting the BCMCS control information, determining whether the inputted BCMCS control information is correct information or not, inserting the BCMCS control information into the system parameter

Art Unit: 4134

message, and transmitting the system parameter message to the access network (see par. 0077 lines 6-11).

Consider claim 7, Hsu discloses wherein the access network includes a base station controller (BSC) and a base station transceiver subsystem (BTS) (see fig. 1, par. 0045).

Consider claim 16, Hsu discloses a method for appointing an FA mode and/or a BCMCS assignment ratio in a 1xEV-DO system including at least one access terminal (AT) (12), an access network (AN) and a base station manager (BSM) (22), the access network including a 1xEV-DO access network transceiver subsystem (ANTS) for transmitting packet data and various messages in order to provide a 1xEV-DO service and/or a broadcast/multicast service (BCMCS) to each access terminal (12) and the 1xEV-DO access network controller (ANC) (18), the method comprising the steps of (see figs. 10 and 11, pars. 0073 - 0077): a) inputting BCMCS control information containing FA mode information and/or BCMCS assignment ratio information and determining whether the information is normal input information or not (see par. 0077 lines 6-11); b) operating a timer and simultaneously transmitting the BCMCS control information to the access network (see pars. 0019 lines 11-13 and 0081 lines 1-7); c) determining whether a predetermined check time is ended or not and checking whether a response signal is received from the access network or not (see par. 0072 lines 5-8); and d) outputting an error message and/or a re-input screen of the BCMCS control information when the response signal is not received in the predetermined check time (see pars. 0082 and 0088).

Consider claim 17, Hsu discloses a method wherein, in step a), the FA mode information is information on one of a dedicated BCMCS mode and a mixed BCMCS mode (see pars. 0048, 0049, 0074 and 0077 lines 7-9).

Consider claim 18, Hsu discloses wherein the BCMCS assignment ratio information is also inputted when the mixed BCMCS mode is inputted (see fig. 2, par. 0054).

Consider claim 19, Hsu discloses wherein, when the inputted BCMCS control information is not the normal input information in step a), the base station manager outputs an error message and/or a re-input screen of the BCMCS control information (see par. 0088).

Consider claim 20, Hsu discloses wherein, in step b), the BCMCS control information is contained in a system parameter message for the BCMCS and then transmitted (see fig. 2, par. 0054).

Consider claim 21, Hsu discloses wherein, in step c), the predetermined check time is a period of time from a time point at which the timer operates to a time point at which the base station manager halts an operation checking whether the response signal is received from the access network or not (see par. 0088).

Consider claim 22, Hsu discloses wherein the base station manager operates the timer in step b) and simultaneously starts a count, increases a number of times of the count by one time whenever the predetermined check time is ended, and resets the timer (see par. 0071 lines 8-13).

Consider claim 23, Hsu discloses wherein the base station manager repeats the operation checking whether the response signal is received from the access network or not by a predetermined number of times of a count, and outputs an error message and/or a re-input screen of the BCMCS control information when the response signal is not received during a specific period of time required to reach the predetermined number of times of the count (see par. 0088).

Consider claim 24, Hsu discloses wherein, when the response signal is received in step d), the base station manager outputs a success message reporting successful reception of the BCMCS control information to the access network (see par. 0082 lines 10-12).

Consider claims 25 and 36, Hsu discloses a method for controlling a message according to a broadcast/multicast service (BCMCS) dedicated mode set in a 1xEV-DO system including at least one access terminal (AT), an access network (AN) and a base station manager (BSM), the access network including a 1xEV-DO access network transceiver subsystem (ANTS) for transmitting packet data and various messages in order to provide a 1xEV-DO service and/or a BCMCS to each access terminal and the 1xEV-DO access network controller (ANC), the method comprising the steps of (**see figs. 10 and 11, pars. 0073 - 0077**): a) receiving an overhead message transmitted from the access network (**see par. 0020**); b) confirming a CDMA channel list contained in the overhead message, selecting a frequency assignment (FA) and becoming tuned to the frequency assignment (**see par. 0020**); c) determining whether an frequency assignment to which the access terminal is tuned is a BCMCS FA or not when the

BCMCS is requested (**see par. 0051**); and d) shifting to the BCMCS FA and receiving the BCMCS FA in a state in which the access terminal is not tuned to the BCMCS FA (**see par. 0075**).

Consider claims 26 and 37, Hsu discloses wherein the 1xEV-DO access network transceiver subsystem and the 1xEV-DO access network controller receive information on the dedicated BCMCS mode from the base station manager in advance and store the information (see par. 0085).

Consider claim 27, Hsu discloses wherein, in step a), the overhead message includes at least one message of a Sector-Parameter message (see par. 0083 lines 15-18).

Consider claims 28 and 38, Hsu discloses wherein the Sector-Parameter message includes information on the CDMA channel list (see par. 0092).

Consider claim 29, Hsu discloses wherein, in step b), the CDMA channel list includes information on two or more CDMA frequency assignments (see par. 0018).

Consider claims 30 and 40, Hsu discloses wherein, in step c), the access terminal generates a 1xEV-DO service request signal and transmits the 1xEV-DO service request signal to the 1xEV-DO access network transceiver subsystem and the 1xEV-DO access network controller, when the 1xEV-DO service is requested (see par. 0059).

Consider claims 31 and 39, Hsu discloses wherein the 1xEV-DO access network controller receiving the 1xEV-DO service request signal determines whether the access terminal is tuned to a 1xEV-DO FA or the BCMCS FA (see par. 0019 lines 7-11).



Consider claims 32 and 41, Hsu discloses wherein the 1xEV-DO access network controller generates a redirection message or a traffic channel assignment message and transmits the redirection message or the traffic channel assignment message to the access terminal, when it is determined that the access terminal is tuned to the BCMCS FA (see par. 0019).

Consider claim 33, Hsu discloses wherein the access terminal having received the redirection message or the traffic channel assignment message shifts to the 1xEVDO FA contained in the redirection message or the traffic channel assignment message, and receives the 1xEV-DO service (see pars. 0019 and 0051).

Consider claim 34, Hsu discloses wherein the access terminal determines whether the access terminal is tuned to a 1xEV-DO FA or the BCMCS FA when the BCMCS is requested, and performs an operation of shifting to the BCMCS FA when the access terminal is in a state of being tuned to the 1xEV-DO FA (see pars. 0019, 0051).

Consider claim 35, Hsu discloses wherein the access terminal stores information on the BCMCS FA and performs a shift operation to the BCMCS FA while changing a frequency for searching and confirming the stored information on the BCMCS FA (see pars. 0019, 0051 and 0066 lines 20-24).

Consider claim 42, Hsu discloses a method for controlling a message according to a broadcast/multicast service (BCMCS) mixed mode set in a 1xEV-DO system including at least one access terminal (AT), an access network (AN) and a base station manager (BSM), the access network including a 1xEV-DO access network transceiver subsystem (ANTS) for transmitting packet data and various messages in order to

provide a 1xEV-DO service and/or a BCMCS to each access terminal and the 1xEV-DO access network controller (ANC), the method comprising the steps of **(see figs. 10 and 11, pars. 0073 - 0077)**: the 1xEV-DO access network controller receiving mixed BCMCS mode information and BCMCS assignment ratio information from the base station manager and storing the received information **(see fig. 2, pars. 0048 and 0052 lines 27-30)**; controlling a sort and/or a ratio of the message according to the BCMCS assignment ratio information and transmitting the sort and/or the ratio of the message to said each access terminal **(see fig. 2, pars. 0052 lines 27-30 and 0054)**; periodically checking a ratio of a 1xEV-DO message and determining whether or not the ratio of the 1xEV-DO message exceeds a 1xEV-DO message appointment ratio **(see 0081)**; selecting at least one shift-targeted access terminal and a specific 1xEV-DO FA according to an exceeding ratio **(see pars. 0089 and 0090)**; and transmitting information on the specific 1xEV-DO FA to each shift-targeted access terminal **(see pars. 0089 and 0090)**.

Consider claim 43, Hsu discloses wherein the BCMCS assignment ratio information contains ratio information for using a BCMCS FA resource, which is appointed for the BCMCS, in the BCMCS (see par. 0075).

Consider claim 44, Hsu discloses wherein the 1xEVDO message appointment ratio is a ratio obtained by subtracting the BCMCS assignment ratio from an entire ratio of the BCMCS FA resource (see par. 0075).

Consider claim 45, Hsu discloses wherein the information on the specific 1xEV-DO FA is recorded in a redirection message or a traffic channel assignment message and then transmitted to said each shift-targeted access terminal (see par. 0079).

Consider claim 46, Hsu discloses wherein said each shift-targeted access terminal having received the redirection message or the traffic channel assignment message shifts to the specific 1xEV-DO FA and receives the 1xEV-DO service (see 0019 and 0051).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al. (US 20030054807 A1), hereafter "Hsu," in view of Chang et al. (US 20080019322 A1), hereafter "Chang."

Consider claim 8, Hsu discloses the invention of claim 1 above, but does not particular refer to wherein the 1xEV-DO system further comprises a general ATM switch network (GAN), which is connected to the 1xEV-DO access network controller and performs a routing function for transmitted/received packet data regarding the 1xEV-DO service and/or the BCMCS.

Chang, in analogous art, teaches wherein the 1xEV-DO system further comprises a general ATM switch network (GAN), which is connected to the 1xEV-DO access network controller and performs a routing function for transmitted/received packet data regarding the 1xEV-DO service and/or the BCMCS (see fig. 1, par. 0021 lines 6-8 and 24-25).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Hsu and have it include wherein the 1xEV-DO system further comprises a general ATM switch network (GAN), which is connected to the 1xEV-DO access network controller and performs a routing function for transmitted/received packet data regarding the 1xEV-DO service and/or the BCMCS, as taught by Chang. The motivation would have been in order to interconnect different elements of the network (see fig. 1, par. 0021).

Consider claim 9, Hsu discloses the invention of claim 1 above, but does not particular refer to wherein the 1xEV-DO system further comprises a packet data serving node (PDSN), which is connected to the GAN and performs a function of transmitting the packet data to said each access terminal through the GAN.

Chang, in analogous art, teaches wherein the 1xEV-DO system further comprises a packet data serving node (PDSN), which is connected to the GAN and performs a function of transmitting the packet data to said each access terminal through the GAN (see fig. 1, par. 0021 lines 13-15).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Hsu and have it include wherein the

1xEV-DO system further comprises a packet data serving node (PDSN), which is connected to the GAN and performs a function of transmitting the packet data to said each access terminal through the GAN, as taught by Chang. The motivation would have been in order to interconnect different elements of the network (see fig. 1, par. 0021).

Consider claim 10, Hsu discloses the invention of claim 1 above, but does not particular refer to wherein the 1xEV-DO system further comprises an authorization authentication accounting (AAA), which is connected to the GAN and the packet data serving node and performs a subscriber authentication when an authenticated access terminal requests a packet data service, encodes the packet data by means of an encoding key in order to transmit the packet data through the packet data serving node, and collects accounting data.

Chang, in analogous art, teaches wherein the 1xEV-DO system further comprises an authorization authentication accounting (AAA), which is connected to the GAN and the packet data serving node and performs a subscriber authentication when an authenticated access terminal requests a packet data service, encodes the packet data by means of an encoding key in order to transmit the packet data through the packet data serving node, and collects accounting data (see fig. 1, par. 0021 lines 9-12).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Hsu and have it include wherein the 1xEV-DO system further comprises an authorization authentication accounting (AAA), which is connected to the GAN and the packet data serving node and performs a

subscriber authentication when an authenticated access terminal requests a packet data service, encodes the packet data by means of an encoding key in order to transmit the packet data through the packet data serving node, and collects accounting data, as taught by Chang. The motivation would have been in order to interconnect different elements of the network (see fig. 1, par. 0021).

Consider claim 11, Hsu discloses the invention of claim 1 above, but does not particular refer to wherein the 1xEV-DO system further comprises a data location register, which is connected to the 1xEVDO access network controller through the GAN by means of a transmission control Protocol/Internet protocol (TC/PIP) and manages position information and paging zone of said each access terminal, supports mobility of each access terminal, and controls a session.

Chang, in analogous art, teaches wherein the 1xEV-DO system further comprises a data location register, which is connected to the 1xEVDO access network controller through the GAN by means of a transmission control Protocol/Internet protocol (TC/PIP) and manages position information and paging zone of said each access terminal, supports mobility of each access terminal, and controls a session (see fig. 1, pars. 0021 lines 12-13 and 0022).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Hsu and have it include wherein the 1xEV-DO system further comprises a data location register, which is connected to the 1xEVDO access network controller through the GAN by means of a transmission control Protocol/Internet protocol (TC/PIP) and manages position information and paging zone

of said each access terminal, supports mobility of each access terminal, and controls a session, as taught by Chang. The motivation would have been in order to interconnect different elements of the network (see fig. 1, par. 0021).

Consider claim 12, Hsu and modified by Chang teaches claim 10 above. Hsu also teaches wherein the 1xEVDO system further comprises a BCMCS controller for providing and managing session information of said each access terminal, receiving subscriber profile information from the authorization authentication accounting, and assigning service authority to said each access terminal (see par. 0079 lines 6-10).

Consider claim 13, Hsu and modified by Chang teaches claim 12 above. Hsu also teaches wherein the 1xEVDO system further comprises a BCMCS contents server for receiving at least one BCMCS contents from at least one BCMCS contents provider, encoding the received BCMCS contents, and storing the encoded BCMCS contents (see fig. 1, par. 0046 lines 6-8).

Consider claim 14, Hsu and modified by Chang teaches claim 13 above. Hsu also teaches wherein the BCMCS contents server converts the encoded BCMCS contents into an IP-based multicast stream and transmits the IP-based multicast stream to the packet data serving node by means of a multicast transmission technology (see pars. 0046 and 0057).

Consider claim 15, Hsu and modified by Chang teaches claim 13 above. Hsu also teaches wherein the 1xEVDO system further comprises at least one BCMCS contents providing server for transmitting the BCMCS contents to the BCMCS contents server by means of a bearer service (see par. 0079 lines 9-12).

***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Marcos Batista, whose telephone number is (571) 270-5209. The Examiner can normally be reached on Monday-Thursday from 8:00am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Lun-Yi Lao can be reached at (571) 272-7671. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

*Marcos Batista*  
/M. B./  
04/30/2008



Application/Control Number: 10/578,102

Page 16

Art Unit: 4134

/LUN-YI LAO/

Supervisory Patent Examiner, Art Unit 4134